New England District
O&M Navigation Program

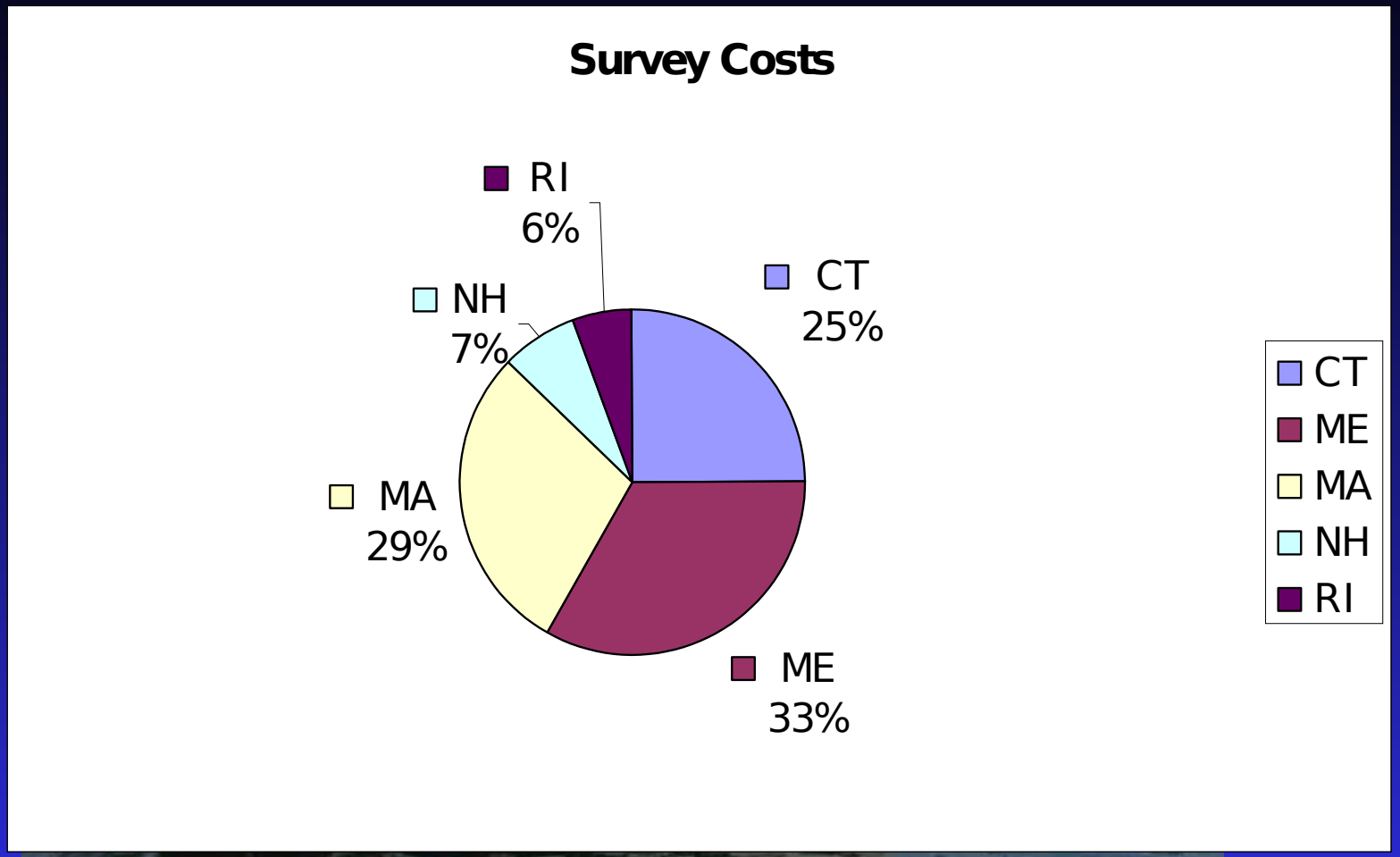
US Army Corps
of Engineers®
New England District

CORPS OF ENGINEERS
U.S. ARMY
170 Navigation Projects
68 Deep Draft Projects
13 Deep Draft Projects 31 feet or Greater
135 Breakwaters or Jetties
38 Beach Erosion Projects
473 Miles of Channel
41 miles of Breakwater
2,006 Acres of Anchorage
6,130 Miles of Shoreline
CANADA
ATLANTIC OCEAN
NARRAGANSETT BAY
LOCATION OF PROJECTS BOSTON HARBOR
CONNECTICUT
ISLAND
NOTE:
For Shore Protection Project Locations, See Sheet No. 2.
* Indicates projects where U.S. Harbor Lines have been established.
INDEX MAP
NAVIGATION PROJECTS
30 SEPTEMBER 1988
Department of the Army
New England Division, Corps of Engineers

Areas of Responsibility

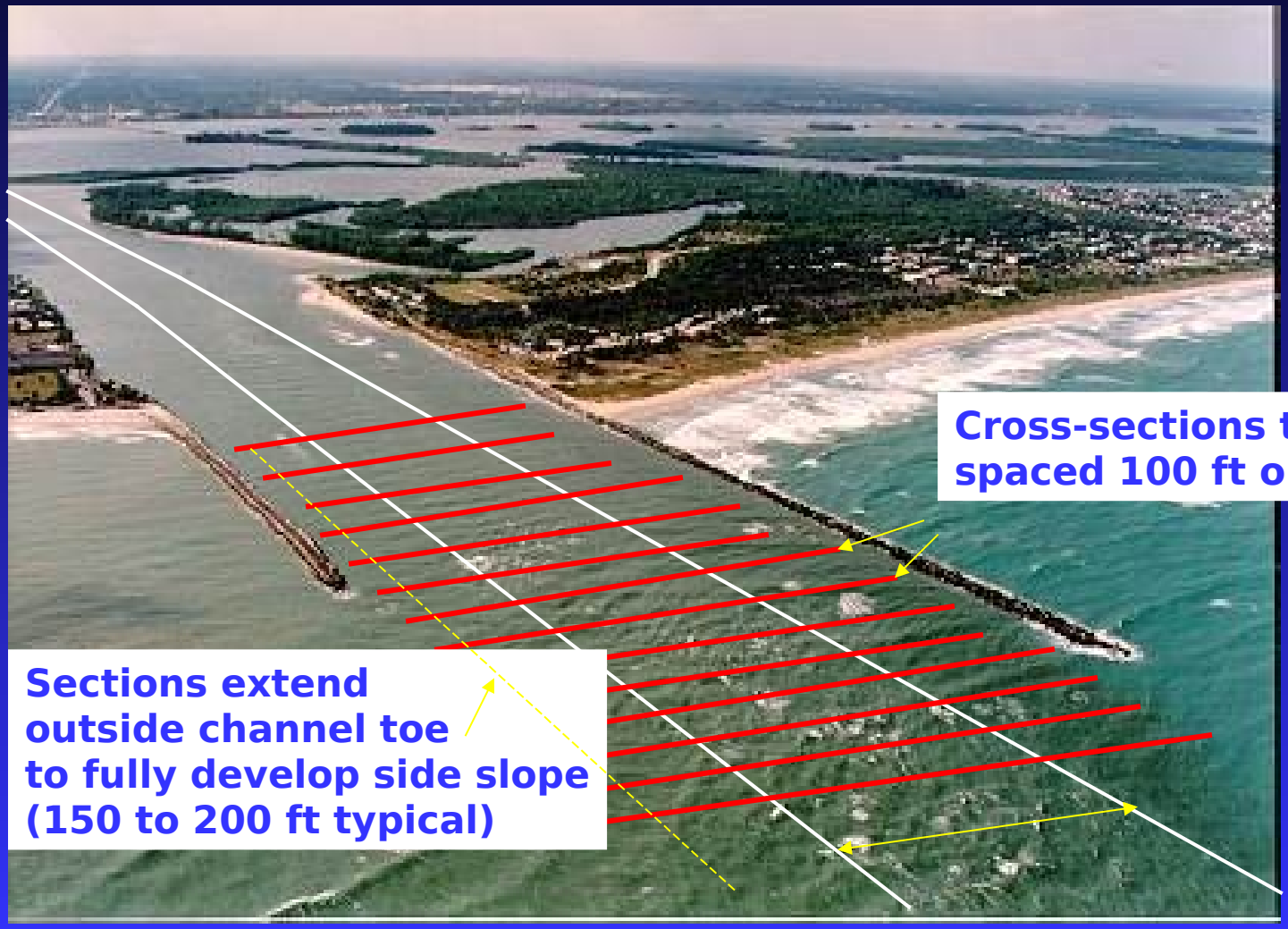
Channel Surveys
Results of Survey
Maintenance Dredging
Obstructions to Navigation
Wreck Removal
Breakwater/Jetty Repair

Survey Vessel

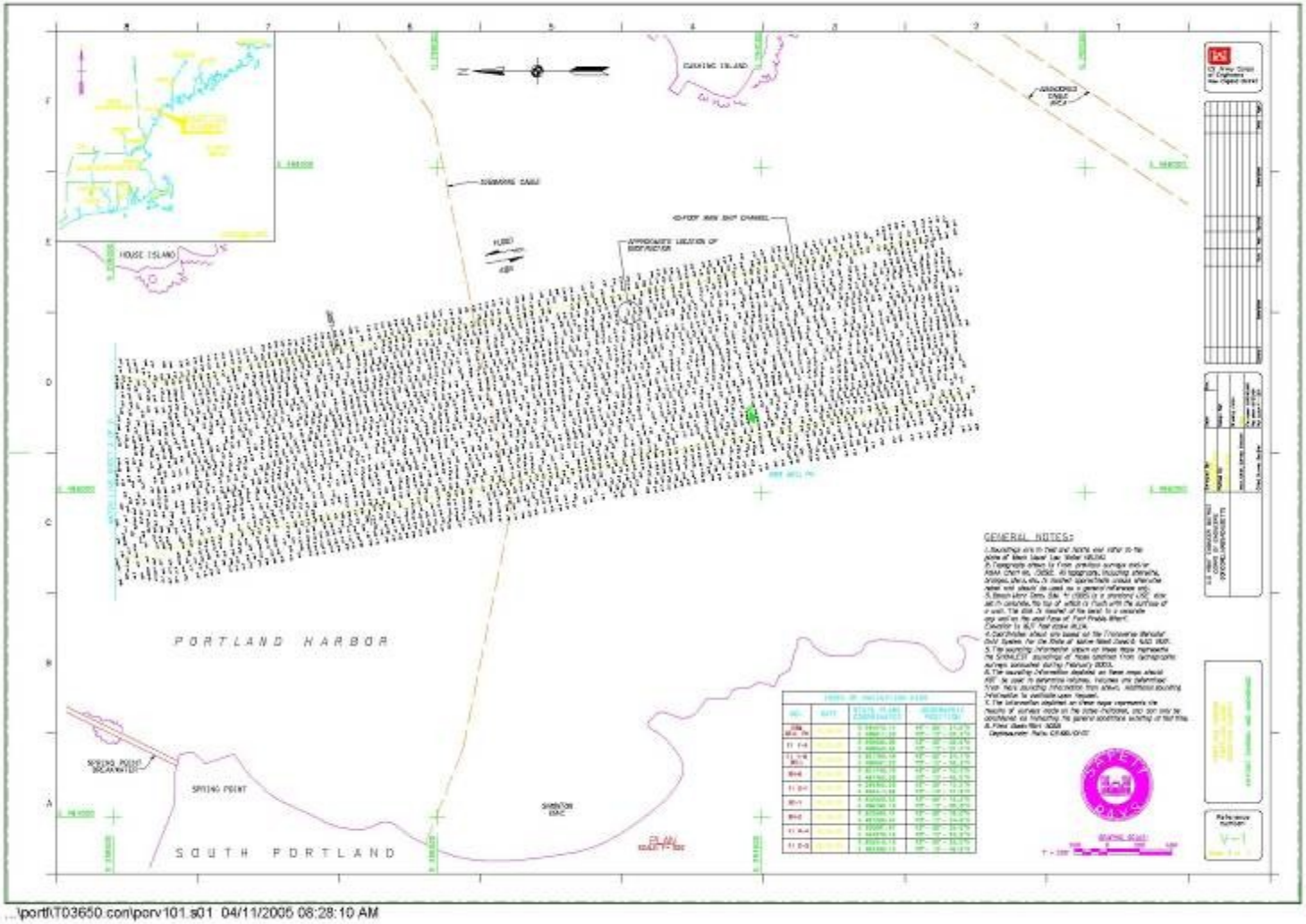


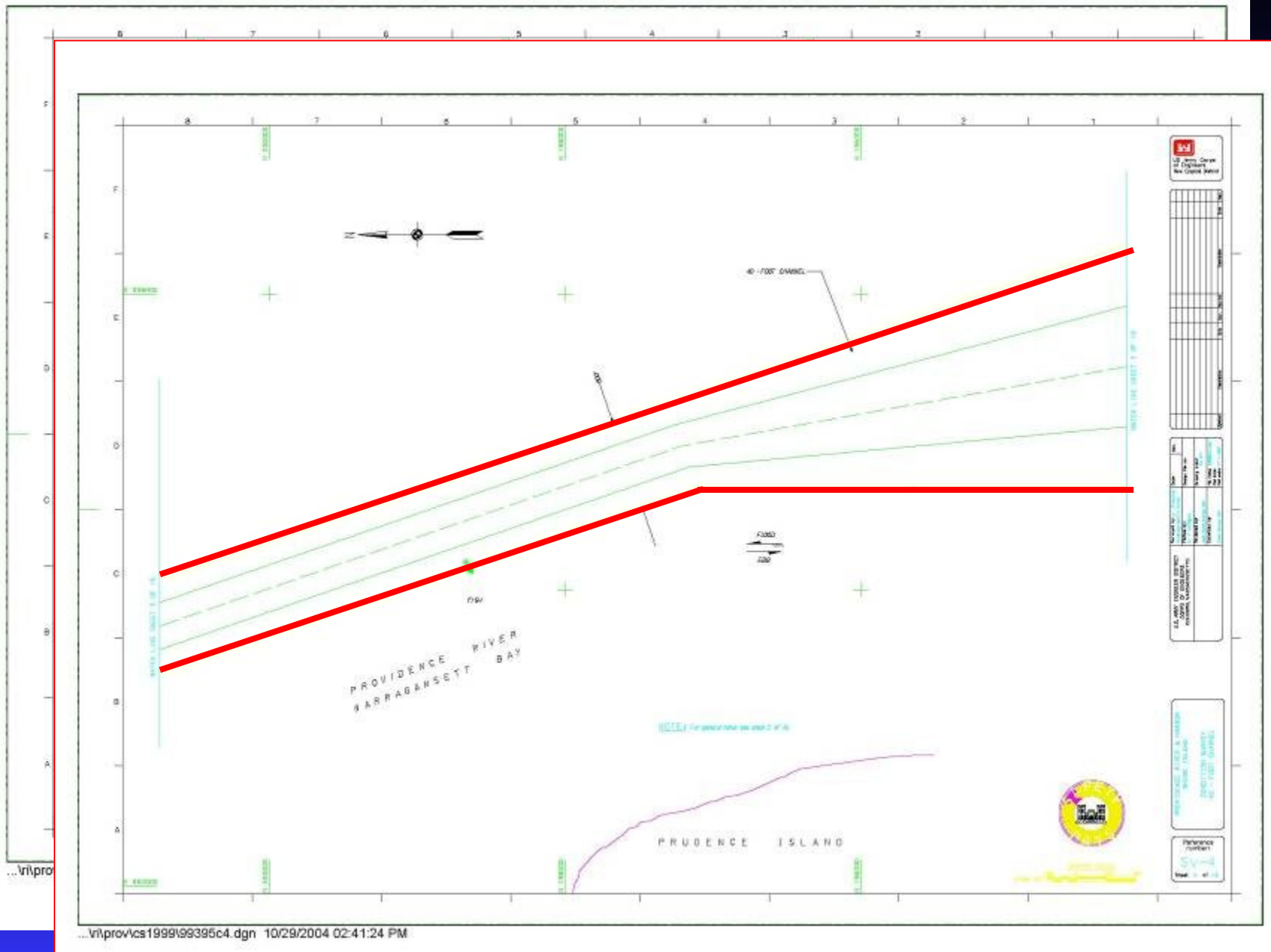
23’ Monark Powered By Twin Johnson 100’s

Condition Surveys


Cross-sections typically
spaced 100 ft or 200 ft C/
Sections extend
outside channel toe
to fully develop side slope
(150 to 200 ft typical)

Typical Survey Drawing




PROVIDENCE RIVER
NARRAGANSETT BAY
PRUDENCE ISLAND
...\ri\prov\cs1999\99395c4.dgn 10/29/2004 02:41:24 PM

Typical Results of Survey Issued after hydrographic survey completion

REPORT OF CHANNEL CONDITIONS
400 FEET WIDE OR GREATER
(ER 1130-2-315)

PAGE 1 OF 2 PAGES

DATE:

TO:

FROM: U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

RIVER/HARBOR NAME AND STATE New Haven Harbor, CT.
Dwg. No. NH-905, Sheet(s) 1-5 of 5, Dated 27 July 2001

MINIMUM DEPTHS IN EACH ¼ WIDTH OF CHANNEL ENTERING FROM SEAWARD

NAME OF CHANNEL	DATE OF SURVEY	AUTHORIZED PROJECT			MID-CHANNEL			
		WIDTH (feet)	LENGTH naut. (miles)	DEPTH (Feet) MLLW	LEFT OUTSIDE QUARTER (feet)	LEFT INSIDE QUARTER (feet)	RIGHT INSIDE QUARTER (feet)	RIGHT OUTSIDE QUARTER (feet)
CONDITION SURVEY								
35-FOOT ENTRANCE CHANNEL								
From about 1470' seaward of Buoy FIG Bell-1 upstream about 6400' to Buoy FIG-7.	10/00	500 to 620	1.05	35.0	(1) 35.0	35.0	35.0	(2) 35.0
LIGHTHOUSE POINT REACH								
From Buoy FIG-7 upstream about 5250' to Buoy GC-9A.	10/00	620 to 400	0.86	35.0	(3) 33.4	35.0	(4) 34.1	(5) 31.4
Thence upstream about 10100'	10/00	400 to 500	1.66	35.0	(6) 34.9	35.0	35.0	(7) 34.8
Thence upstream about 2300' to Buoy RN-20	10/00	500	0.38	35.0	(8) 32.8	(9) 35.0	35.0	(10) 34.1
NEW HAVEN REACH								
From Buoy RN-20 upstream about 3330' to Buoy FIY-A.	10/00	500 to 800	0.55	35.0	(11) 32.7	34.8	31.7	29.7

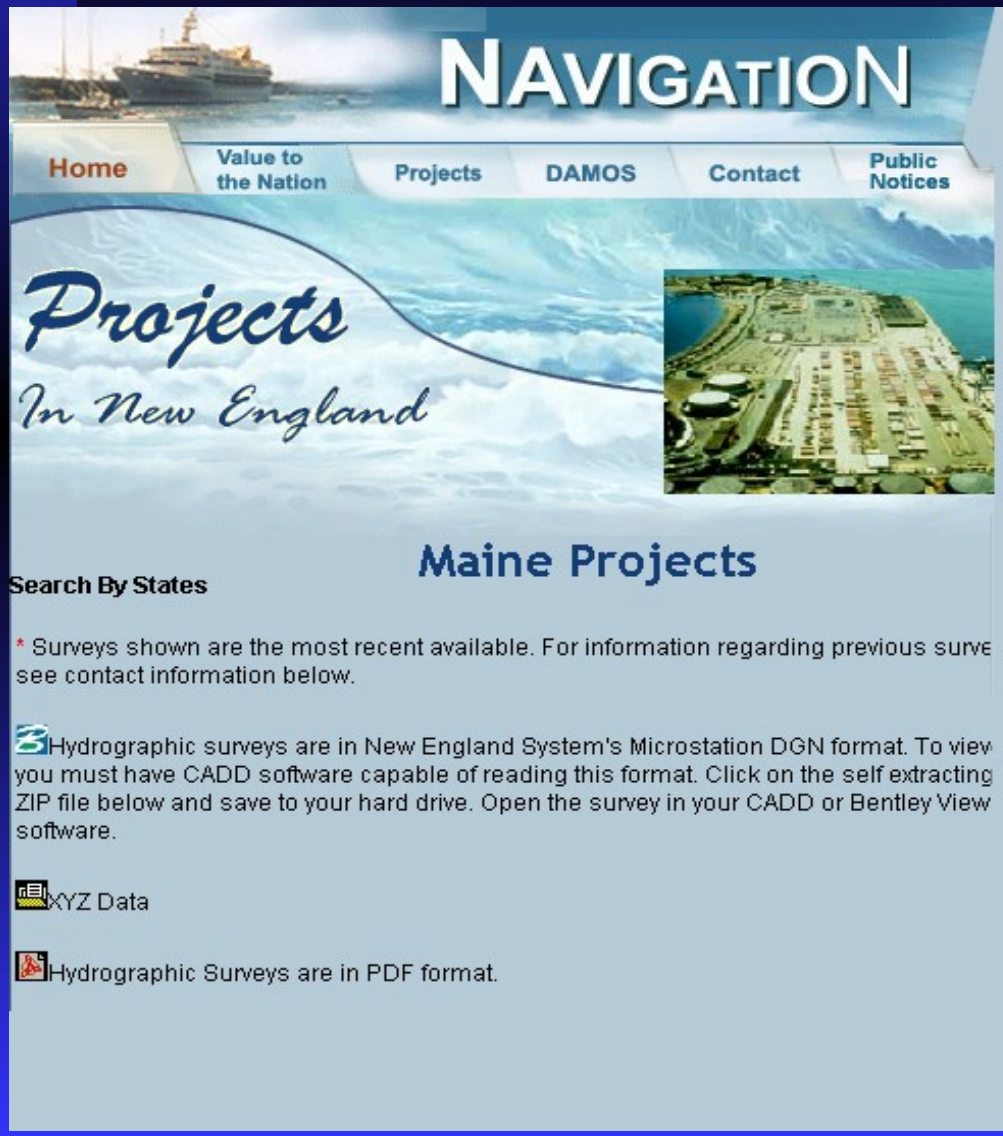
GENERAL NOTE: The information shown on this sheet(s) represents the results of survey(s) made on the dates indicated and can only be considered as indicating the general conditions existing at that time.

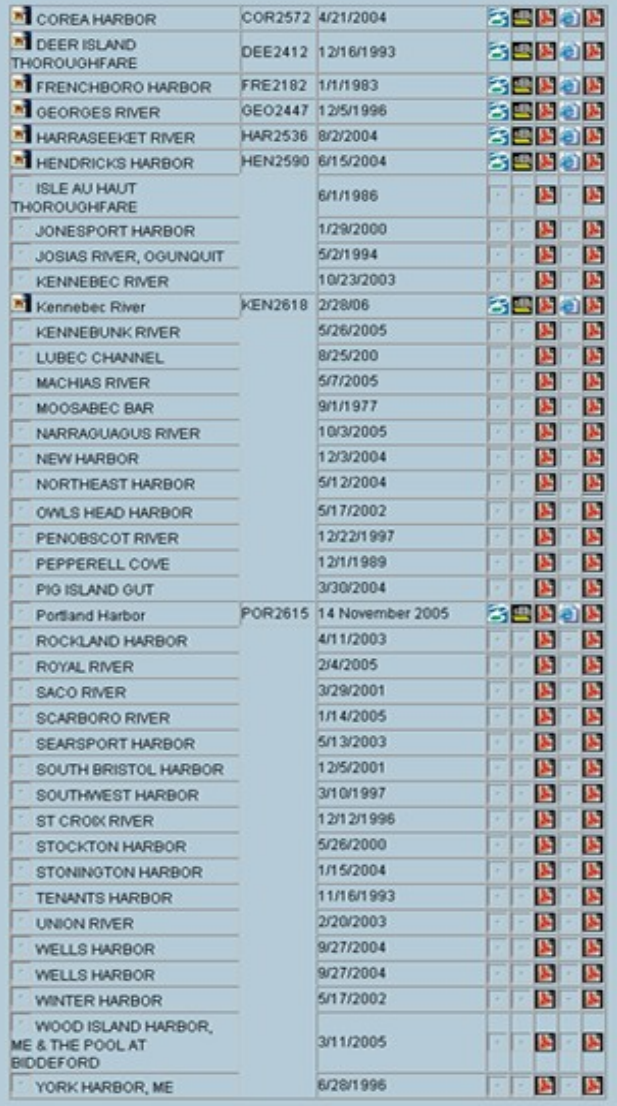
FOOT NOTES:

(1) Except for scattered shoaling to 31.7' along the west channel limit.
(2) Except for scattered shoaling to 33.0' within 5' of east channel limit.
(3) Except for shoaling to 32.9' on the west limit about 180' upstream of Buoy FIG-7.
(4) Shoaling to 34.1' is located from about 1250' to 2650' upstream of Buoy FIR-8; 35.0' is available in remainder of reach.
(5) Except for scattered shoaling to 30.7' along the east channel limit.
(6) Except for scattered shoaling to 34.0' on the west channel limit.
(7) Except for scattered shoaling to 33.7' within 5' of east channel limit.
(8) Except for scattered shoaling to 31.2' on the west channel limit.
(9) Except for shoaling to 34.4' within 30' of west quarter limit from Buoy GC-17 to about 200' upstream.
(10) Except for shoaling to 32.8.' along the east channel limit.
(11) Except for scattered shoaling to 30.8' on the west channel limit.

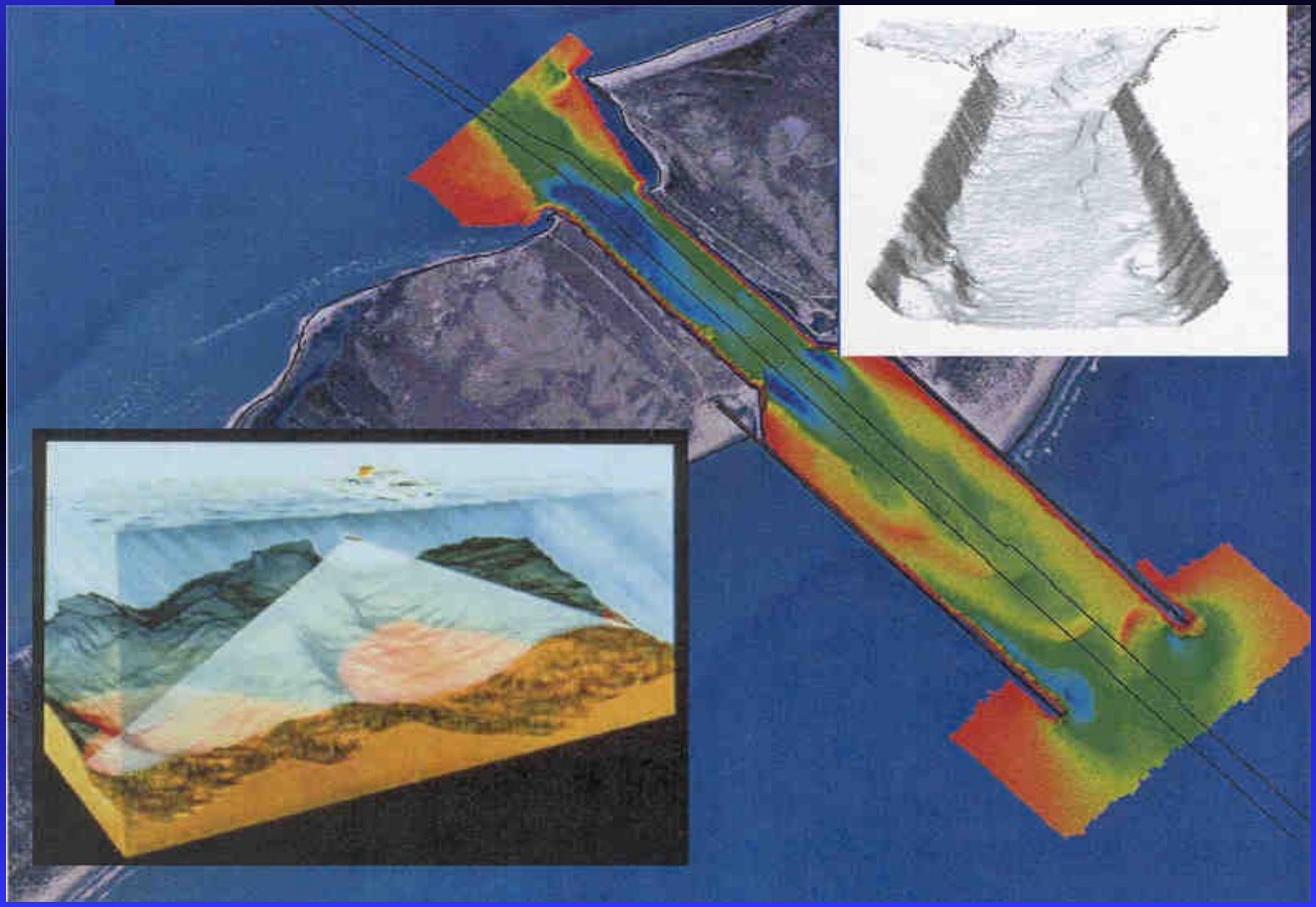
NOAA Chart 12371

Navigation Web Page http://

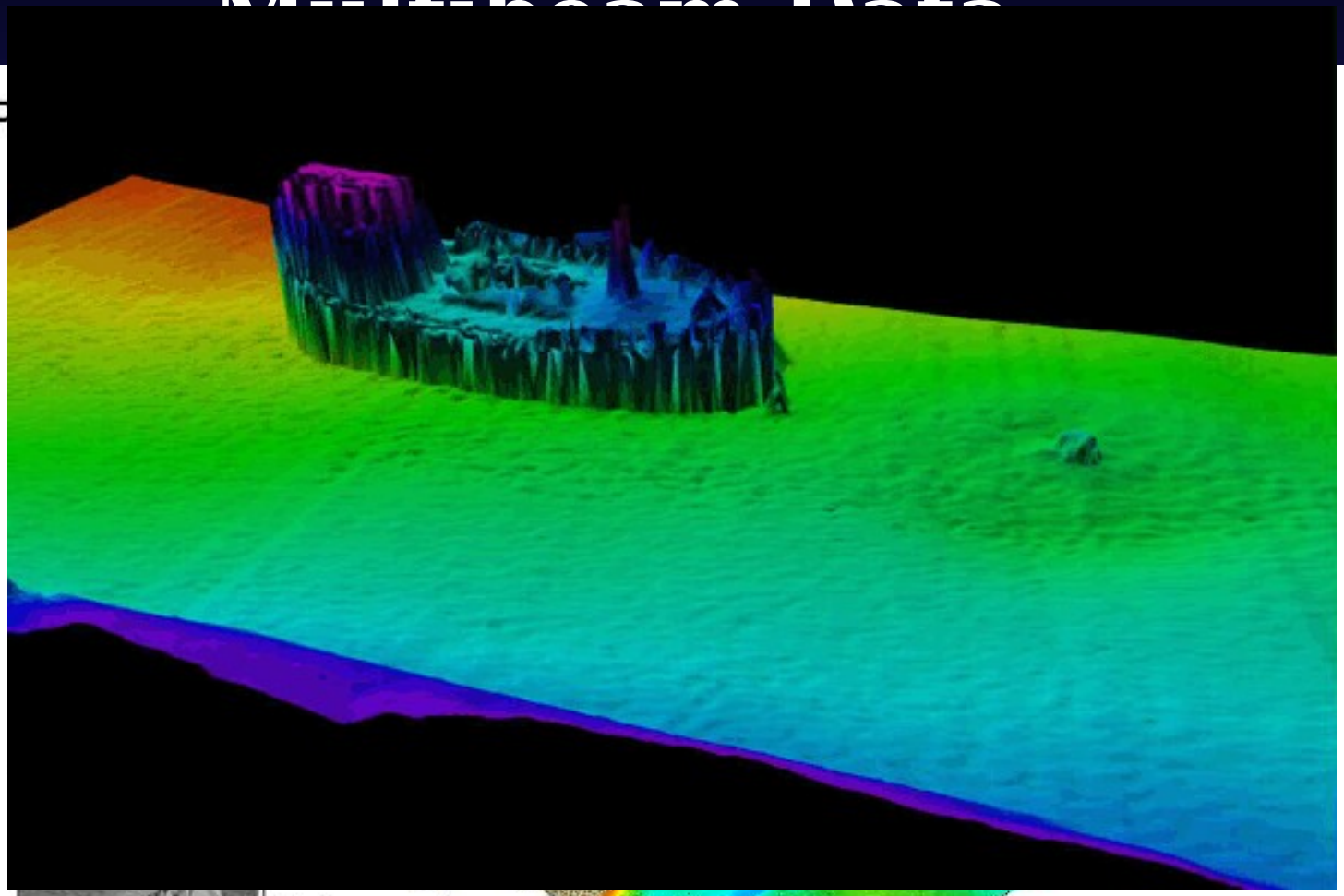

NAVIGATION
Home
Value to the Nation
Projects
DAMOS
Contact
Public Notices
Projects
In New England
Maine Projects
Search By States
* Surveys shown are the most recent available. For information regarding previous surve
see contact information below.
Hydrographic surveys are in New England System's Microstation DGN format. To viev
you must have CADD software capable of reading this format. Click on the self extracting
ZIP file below and save to your hard drive. Open the survey in your CADD or Bentley View
software.
XYZ Data
Hydrographic Surveys are in PDF format.



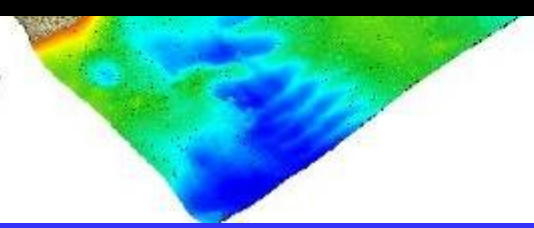
Multibeam Survey



Portsmouth, NH Multibeam Data



Submerged
Possible Box Car
with Debris



NOAA Chart

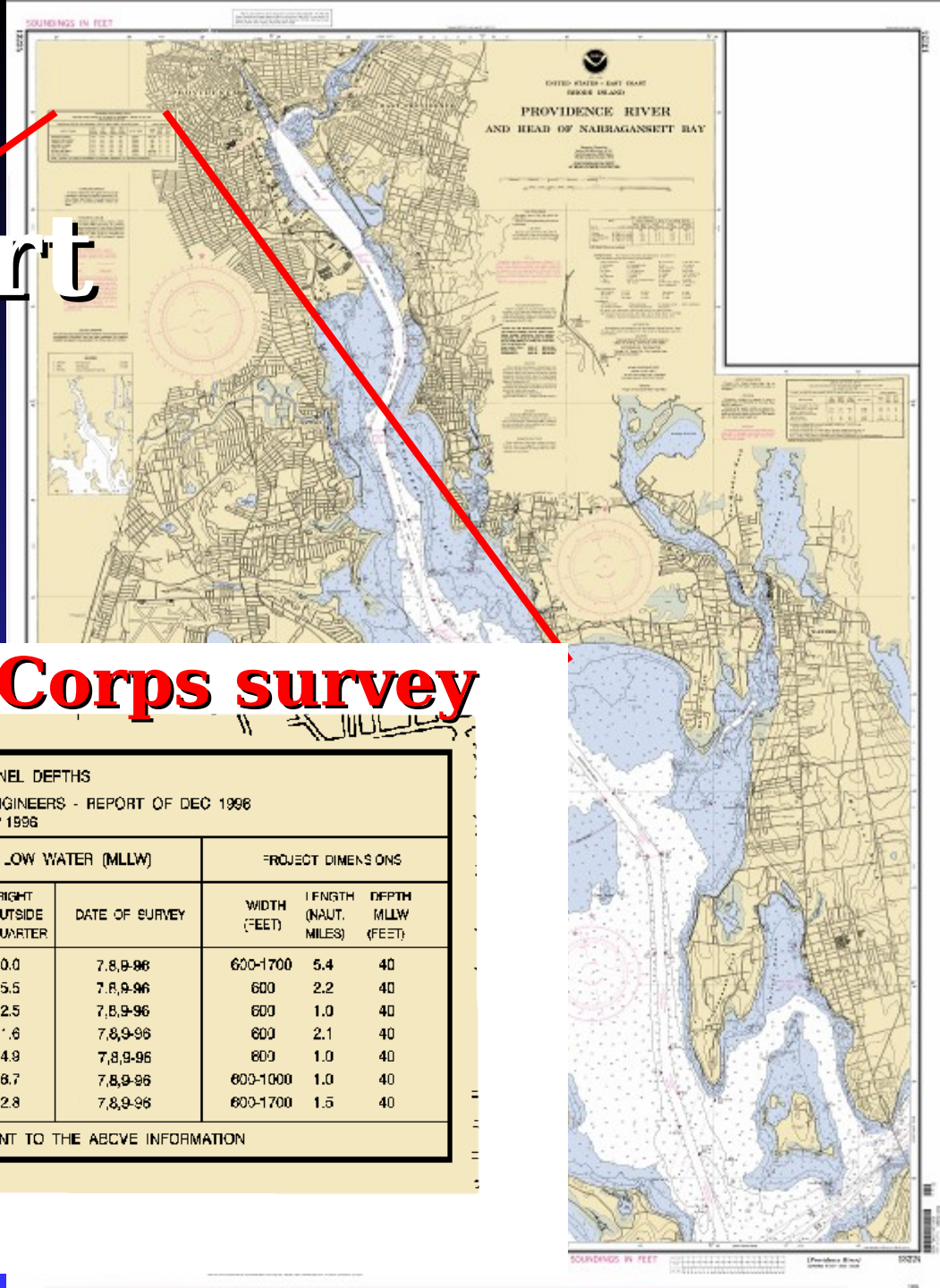


Table from Corps survey

PROVIDENCE RIVER CHANNEL DEPTHS

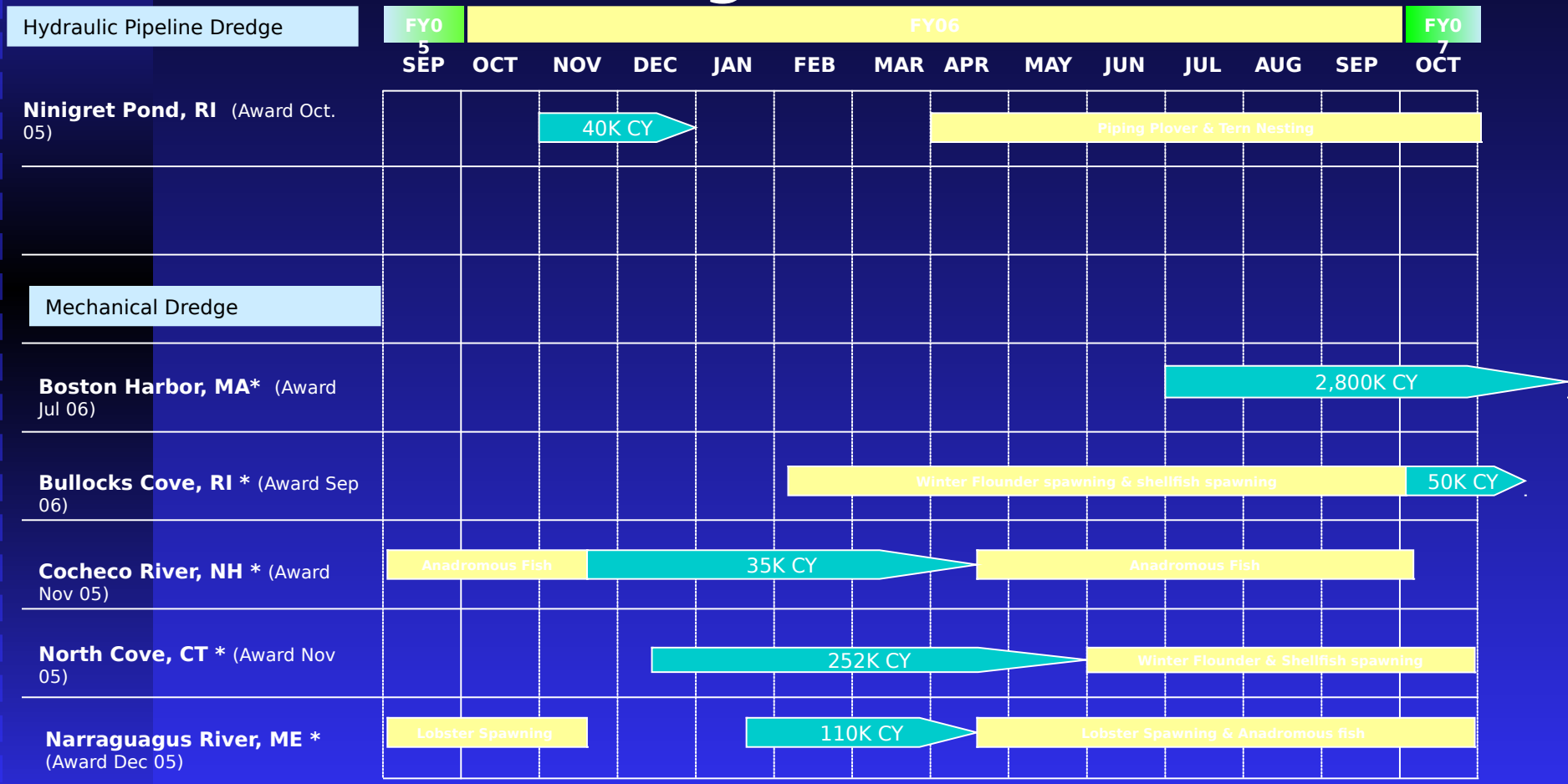
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF DEC 1996
AND SURVEYS TO SEP 1996

NAME OF CHANNEL	CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)					PROJECT DIMENSIONS		
	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
ENTRANCE CHANNEL	40.0	40.0	40.0	40.0	7,8,9-96	600-1700	5.4	40
RUMSTICK NECK REACH	35.4	40.0	40.0	35.5	7,8,9-96	600	2.2	40
CONIMICUT PT. REACH	32.5	39.3	40.0	32.5	7,8,9-96	600	1.0	40
BULLOCK PT. REACH	31.6	36.1	37.0	31.6	7,8,9-96	600	2.1	40
SABIN PT. REACH	27.2	35.4	34.0	24.9	7,8,9-96	600	1.0	40
FULLER ROCK REACH	28.1	31.7	33.6	26.7	7,8,9-96	600-1000	1.0	40
FOX POINT REACH	26.9	35.6	34.1	32.8	7,8,9-96	600-1700	1.5	40

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

US Army Corps of Engineers
New England District

Scheduled FY06 Dredging Work in New England District



* Potential Add

Dredging Windows

Maintenance Dredging

Steps to a dredging projec

1. Notification
2. Survey to verify Shoaling
3. Identification of need, project justification
4. Sampling and Testing
5. Identification of Project Plan
6. Develop Environmental Assessment
7. Coordinate work with State and Federal Resour
8. Develop estimate, budget for project
9. Develop Plans and Specifications
10. Bid Process
11. Undertake and Complete Construction
12. Since this is maintenance work, do it all again in a few years

Harbor Management
Open to all on Equal Terms

Harbor Information Form

HARBOR INFORMATION and NAVIGATION METRICS FORM

US ARMY CORPS OF ENGINEERS – NEW ENGLAND DISTRICT

LOCAL OFFICIALS

Harbormaster: _____ Phone: (____) _____
(____) _____

Assistant Harbormaster: _____ Phone: (____) _____
(____) _____

Other Officials to Contact:

Name: _____ Phone: (____) _____
Position: _____ (____) _____

Name: _____ Phone: (____) _____
Position: _____ (____) _____

Name: _____ Phone: (____) _____
Position: _____ (____) _____

Name: _____ Phone: (____) _____
Position: _____ (____) _____

PUBLIC ACCESS FACILITIES

Describe the Location, Nature (Type), Capacity and Services for the Following:

Town Dock, Wharf or Pier: _____

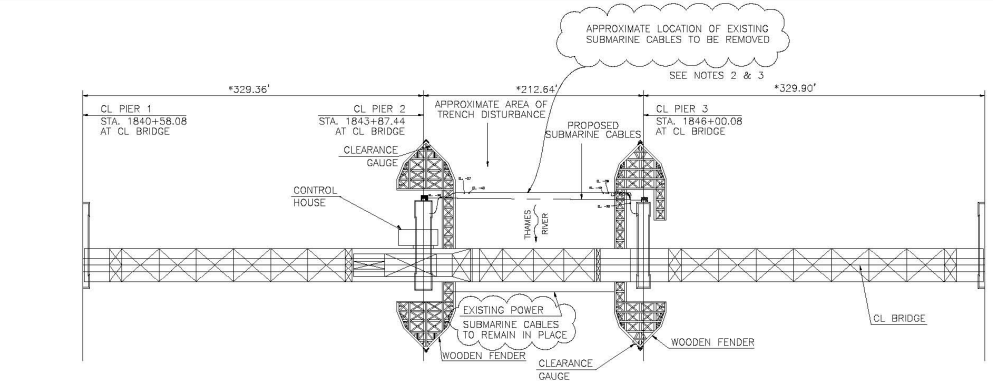
Launching Ramps: _____

Town Marina: _____

Other (_____): _____

Please Describe in General the Importance of the Harbor to the Community/state, and provide negative impacts that would develop should the proposed dredging work not be performed

Cable/Utility Crossings



NOTES:

1. LOCATION OF EXISTING SUBMARINE CABLES TO BE REMOVED IS AS DETAILED ON THIS DRAWING AND AS DETERMINED BY FIELD SURVEY.
2. EXISTING SUBMARINE CABLES TO BE REMOVED FOLLOWING ACTIVATION OF NEW CABLES. CABLES TO BE PULLED BY A CRANE WITH THE ASSISTANCE OF DIVERS TO AVOID DAMAGE OF NEW CABLES. THERE MAY BE EXCAVATION IF NECESSARY.
3.

No.	Revisions	Date	By	No.	Revisions	Date	By

NHB0124.002

VERSION: 2.0

AMTRAK

OFFICE OF THE DEPUTY CHIEF ENGINEER C&S

Phila., PA Date: Approved:

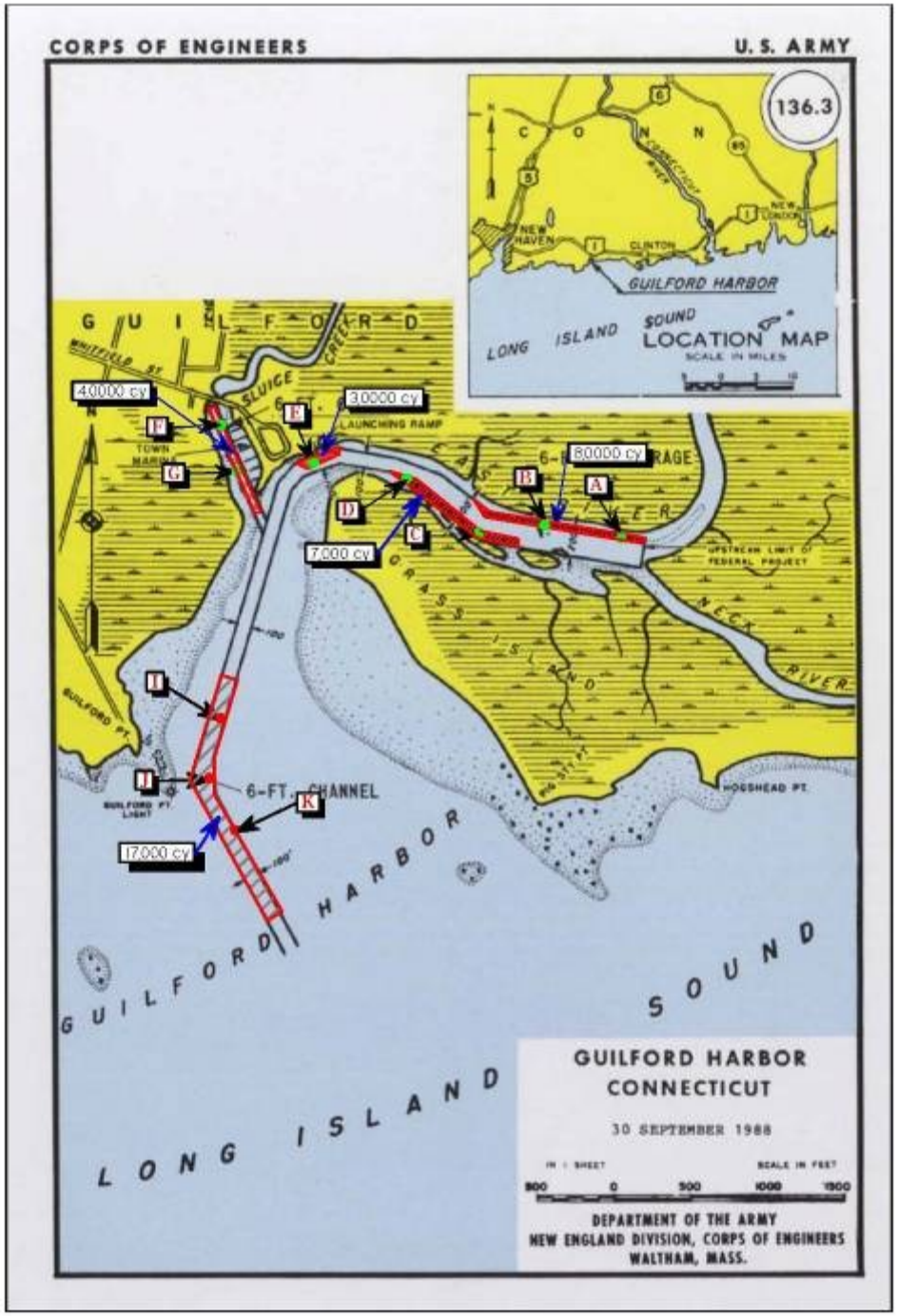
GROTON CONNECTICUT
THAMES RIVER MOVEABLE BRIDGE

Designed HNTB | Drawn HNTB | Checked HNTB | Date SEP 27, 2005

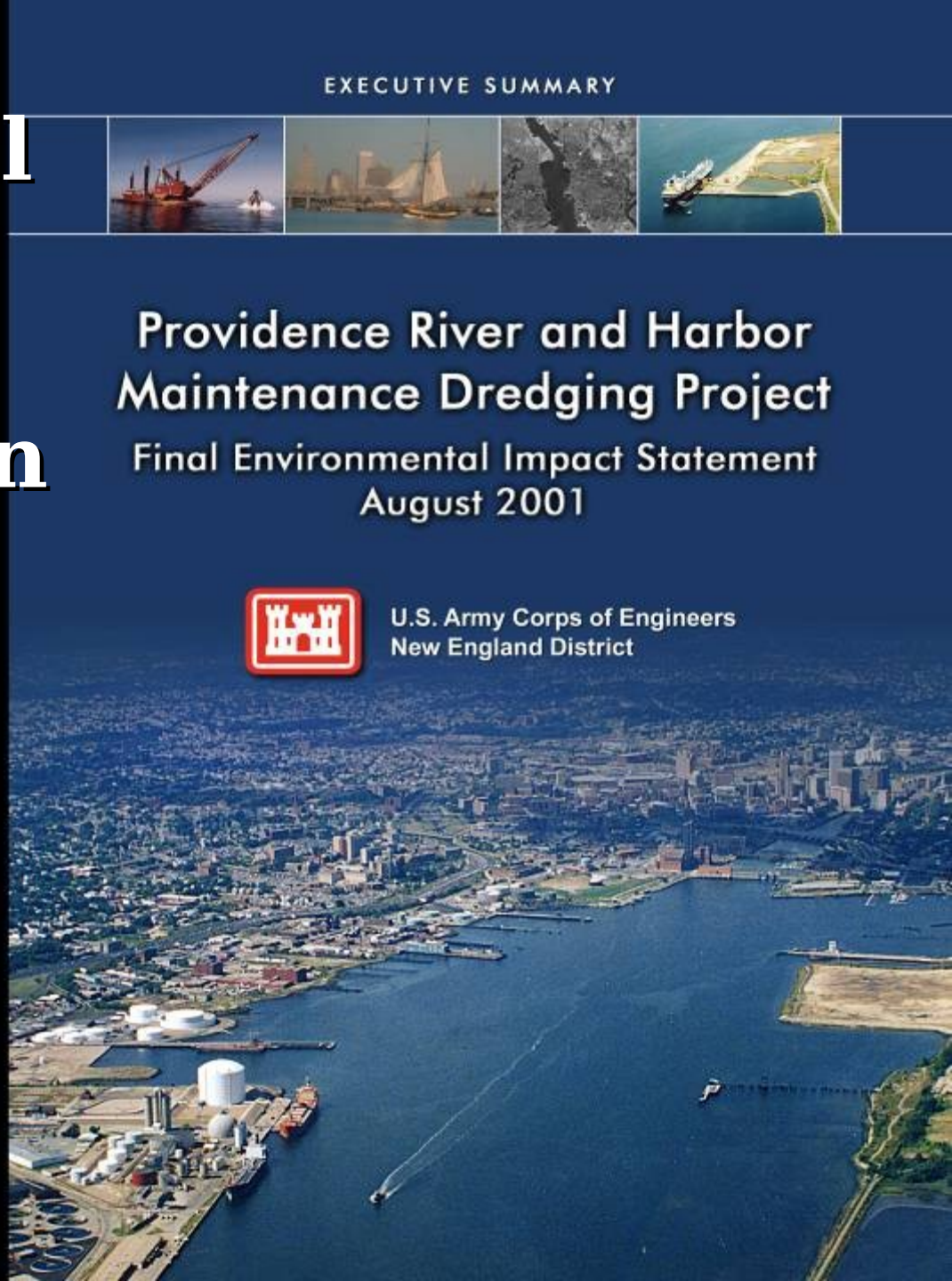
Dwg. No. NHB0124.2

Sheet No. 2

Sample Locations



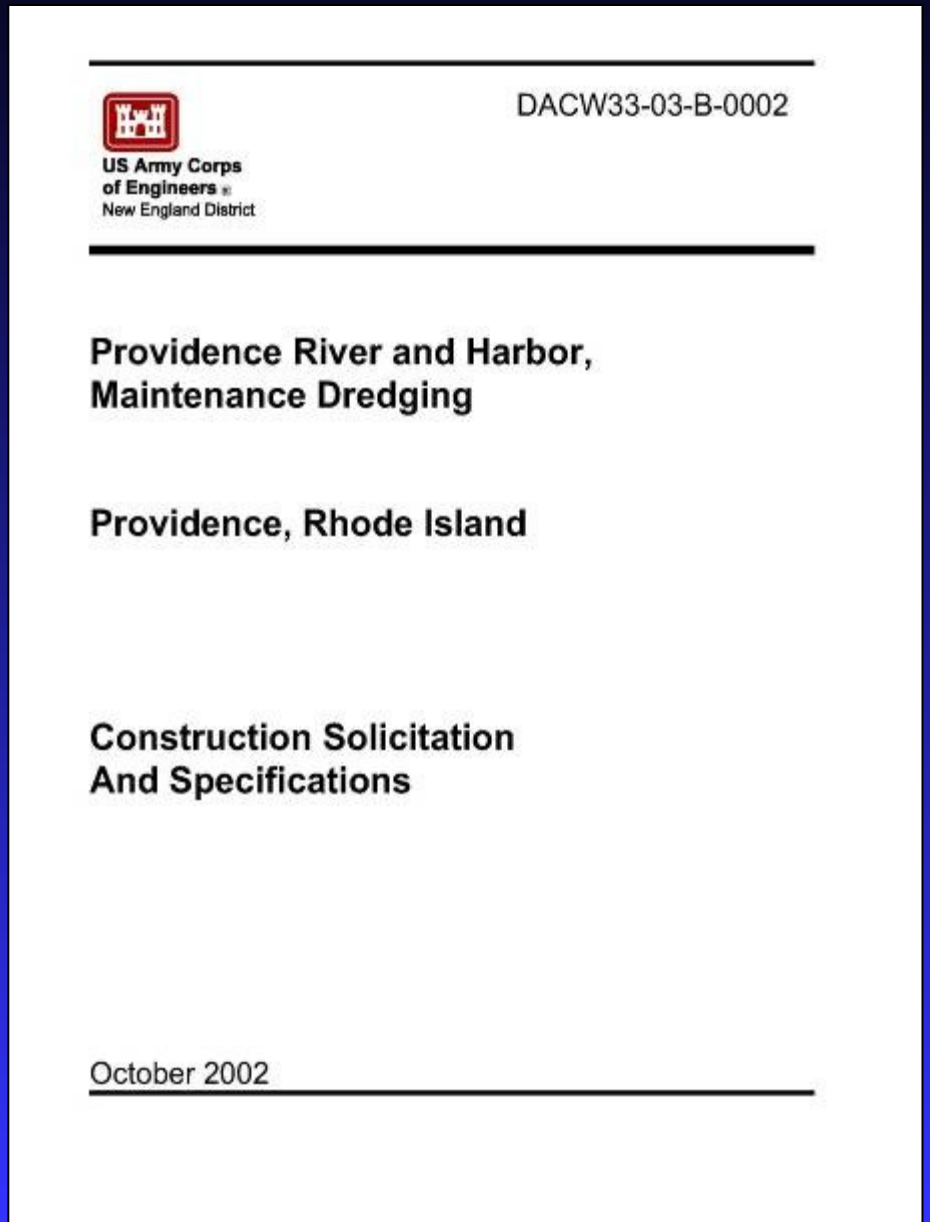
Environmental Review & Documentation



Project Funding

Bidding Process

- Prepare Plans and Specs
- Cost Estimate
- ITR
- BCOE
- Pre-Solicitation Notice
- IFB
- Bid Opening
- Award
- Notice to Proceed



DACW33-03-B-0002

US Army Corps of Engineers
New England District

Providence River and Harbor, Maintenance Dredging

Providence, Rhode Island

Construction Solicitation And Specifications

October 2002

Types of Dredging Equipment

Mechanical Dredge

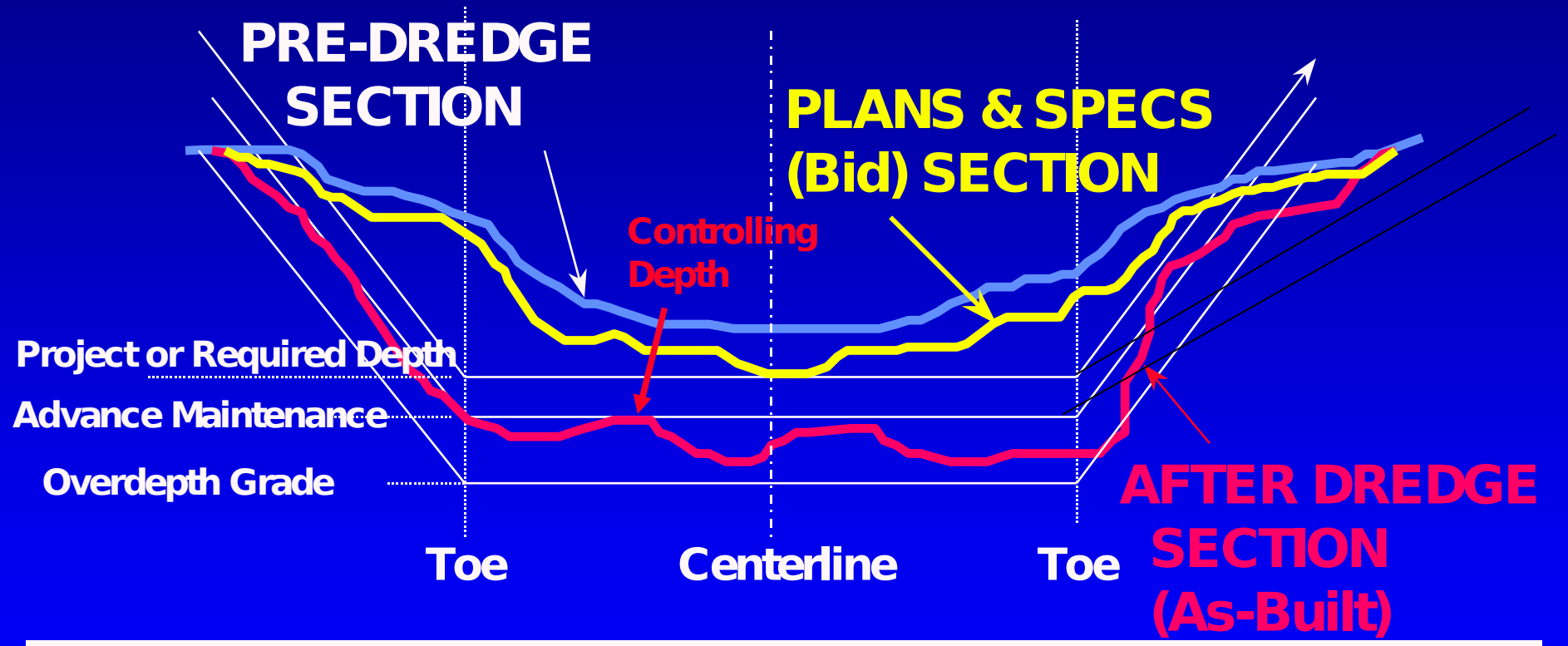
Hydraulic Dredge

Hopper Dredge

Specialized Dredge

US Army Corps of Engineers®

Typical Dredge Payment Templates & Payment Grades



Required Dredging Depth is not necessarily the Project Depth, which is authorized by Congress

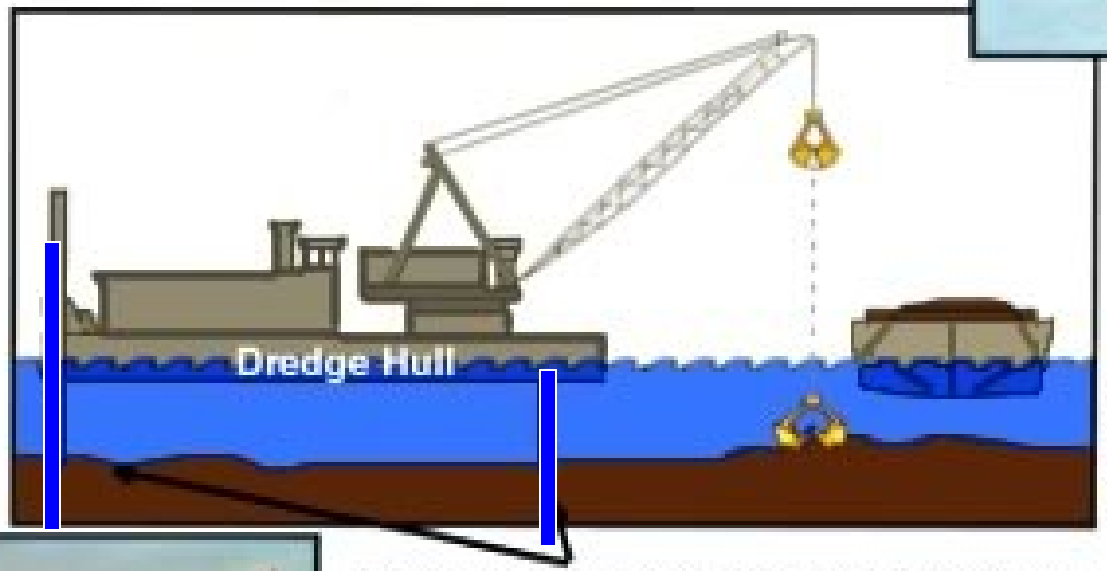
Dredge contractor must clear channel to Required Depth grade … Acceptance Surveys confirm

Controlling Depth is least depth in a navigation project … may be less than Project Depth if shoaling

Mechanical dredges are the most common used in New

Mechanical Bucket Dredge

Clamshell Bucket



Bottom Dump Barge

"Spuds" hold the barge in place

Dredging in a Bay

Mechanical Dredge

Norwalk Harbor

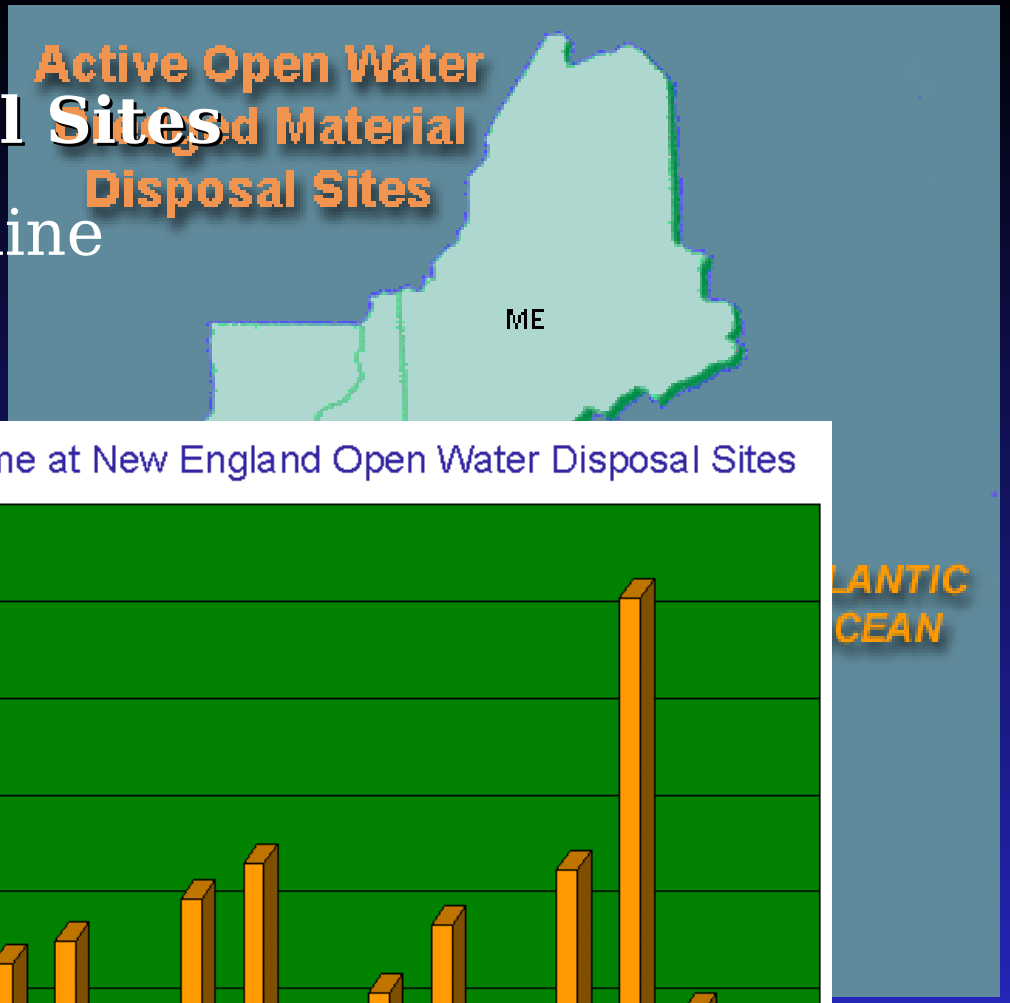
Mechanical dredging, pocket scows

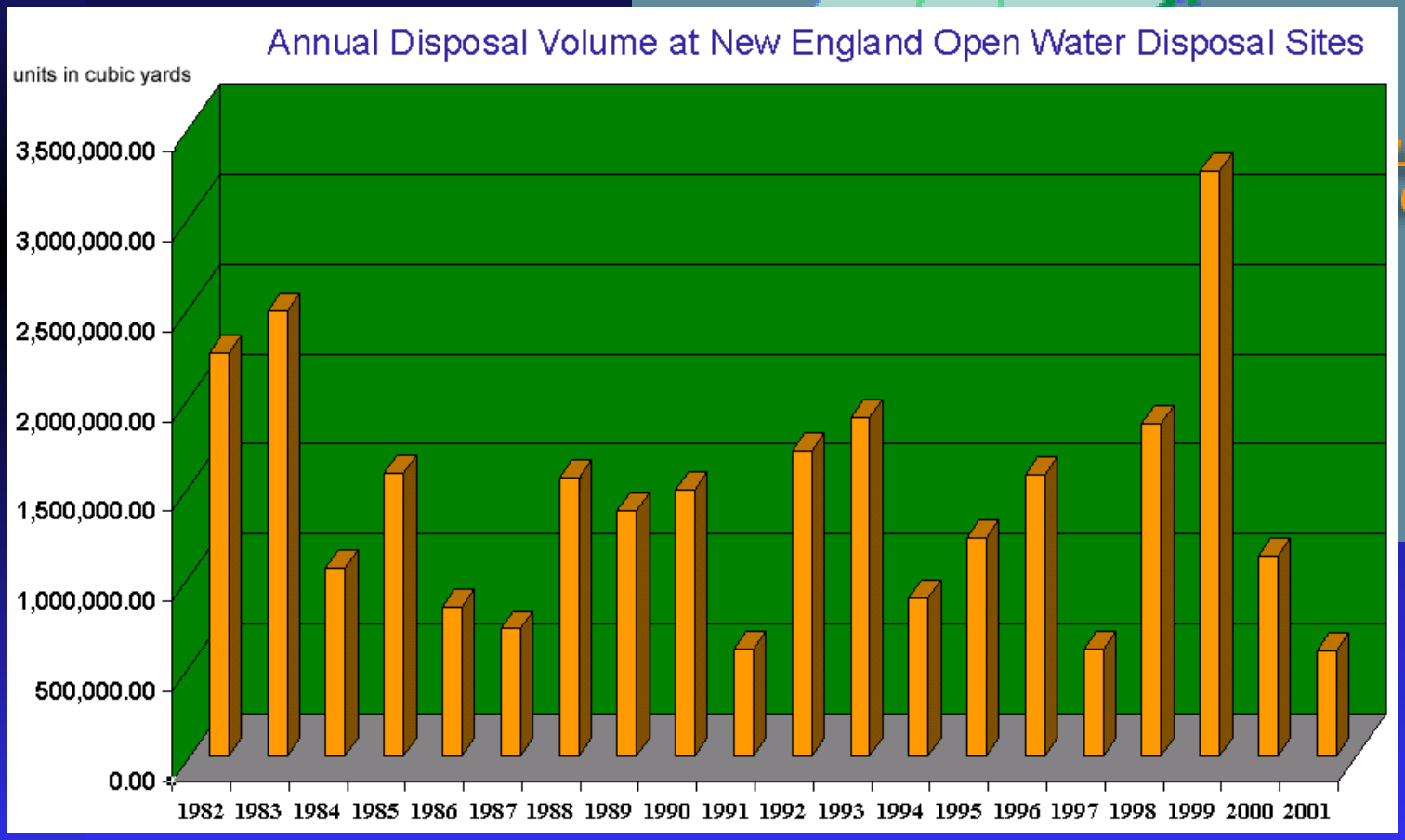
Hydraulic Dredging w/ beach nourishment

Hydraulic Dredge

Open Water Disposal Sites

3 Active Sites in Maine

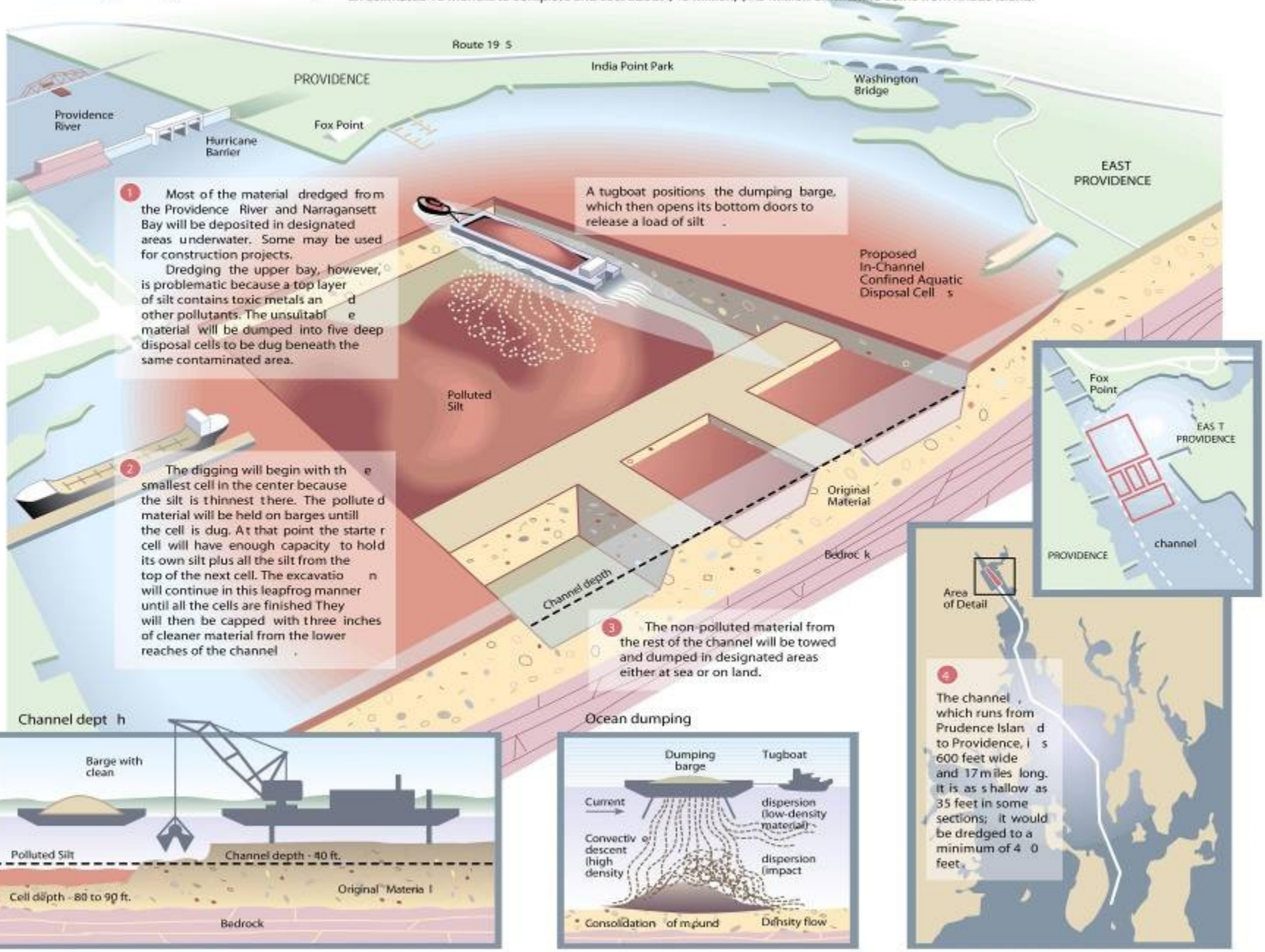




Cocheco Rive
Upland CDF

Dredging the bay

Governor Lincoln Almond signed an agreement yesterday to authorize the Great Lakes Dredge and Dock Company to begi n dredging the Providence River channel. The project will remove 6 million cubic yards of material from the river bed. It will ta ke an estimated 18 months to complete and cost about $43 million, $7.5 million of which to come from Rhode Island.


Route 19 5
India Point Park
PROVIDENCE
Washington Bridge
Providence River
Hurricane Barrier
Fox Point
EAST PROVIDENCE
1 Most of the material dredged from the Providence River and Narragansett Bay will be deposited in designated areas underwater. Some may be used for construction projects.
Dredging the upper bay, however, is problematic because a top layer of silt contains toxic metals and other pollutants. The unsuitable material will be dumped into five deep disposal cells to be dug beneath the same contaminated area.
A tugboat positions the dumping barge, which then opens its bottom doors to release a load of silt .
Proposed In-Channel Confined Aquatic Disposal Cells
Polluted Silt
2 The digging will begin with the smallest cell in the center because the silt is thinnest there. The polluted material will be held on barges untill the cell is dug. At that point the starter cell will have enough capacity to hold its own silt plus all the silt from the top of the next cell. The excavation will continue in this leapfrog manner until all the cells are finished They will then be capped with three inches of cleaner material from the lower reaches of the channel .
Original Material
Bedrock
Channel depth
3 The non-polluted material from the rest of the channel will be towed and dumped in designated areas either at sea or on land.
Fox Point
EAST PROVIDENCE
channel
PROVIDENCE
Area of Detail
4 The channel , which runs from Prudence Island to Providence, is 600 feet wide and 17 miles long. It is as shallow as 35 feet in some sections; it would be dredged to a minimum of 40 feet.
Channel depth
Barge with clean
Polluted Silt
Channel depth - 40 ft.
Original Material
Cell depth - 80 to 90 ft.
Bedrock
Ocean dumping
Dumping barge
Tugboat
Current
dispersion (low-density material)
Convective descent (high density
dispersion (impact
Consolidation of mound
Density flow

SOURCE: Army Corps of Engineers

JOURNAL GRAPHIC / TOM MURPHY

Hopper Dredge

Hopper Dredge

Nearshore Disposal

Bed Leveling

Wreck Removal

Breakwater Repair